

What is claimed is:

1           1.       A system of indicating a message size, comprising:  
2                   a controller adapted to receive a first message containing a data portion  
3       and an indication of a size for the data portion,  
4                   the controller adapted to modify the indication to indicate a different size  
5       for the data portion.

1           2.       The system of claim 1, wherein the controller is further adapted to  
2       determine a maximum size of data capable of being communicated along a downstream  
3       path, the controller modifying the indication based on the determination.

1           3.       The system of claim 1, wherein the data portion size indication comprises  
2       a Transmission Control Protocol maximum segment size indication.

1           4.       The system of claim 1, wherein the controller is further adapted to receive  
2       the first message from a client system over a local area network.

1           5.       The system of claim 4, wherein the controller is further adapted to receive  
2       the first message from the client system over an Ethernet network.

1           6.       The system of claim 1, wherein the first message comprises an Ethernet  
2       frame.

1           7.       The system of claim 6, wherein the data portion of the Ethernet frame  
2       carries an Internet Protocol packet.

1           8.       The system of claim 1, wherein the controller is further adapted to  
2       transmit a second message containing the modified indication.

1           9.       The system of claim 8, wherein the first message comprises a first data  
2       portion and a first control portion, and wherein the second message comprises a second

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3 data portion and a second control portion, the second data portion carrying a control  
4 element not carried in the first data portion.

1 10. The system of claim 9, wherein the control element in the second data  
2 portion comprises a Point-to-Point Protocol control element.

1 11. The system of claim 9, wherein the control element in the second data  
2 portion comprises a Point-to-Point over Ethernet control element.

1 12. The system of claim 8, wherein the data portion size indication comprises  
2 a Transmission Control Protocol maximum segment size, wherein the maximum segment  
3 size in the first message indicates a length of 1,460 bytes and the maximum segment size  
4 in the second message indicates a length of 1,452 bytes.

1 13. The system of claim 1, wherein the controller is further adapted to modify  
2 the indication based on usage of a predetermined communications protocol.

1 14. The system of claim 13, wherein the predetermined communications  
2 protocol comprises a Point-to-Point over Ethernet protocol.

1 15. The system of claim 1, wherein the indication indicates a maximum size  
2 for the data portion.

1 16. A method of indicating a message size performed by a system,  
2 comprising:  
3 receiving a message containing a data portion and an indication of a length  
4 of the data portion; and  
5 adjusting a value of the indication to indicate a different length.

1 17. The method of claim 16, wherein adjusting the value of the indication is  
2 based on a characteristic of a link between the system and another node.

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1 18. The method of claim 17, wherein adjusting the value of the indication is  
2 based on a maximum message size supported by the link.

1 19. The method of claim 17, wherein adjusting the value of the indication is  
2 based on usage of a predetermined communications protocol in the link.

1 20. The method of claim 19, wherein adjusting the value of the indication is  
2 based on usage of a Point-to-Point over Ethernet protocol in the link.

1 21. The method of claim 16, wherein receiving the message comprises  
2 receiving a message having a Transmission Control Protocol maximum segment size.

1 22. The method of claim 16, wherein the indication indicates a maximum  
2 length of the data portion.

1 23. An article comprising at least one storage medium containing instructions  
2 for indicating a message size, the instructions when executed causing a system to:  
3 receive a message containing an indication of a size of at least a portion of  
4 the message; and  
5 modify the indication to indicate a different size.

1 24. The article of claim 23, wherein the indication comprises a TCP maximum  
2 segment size indication.

1 25. The article of claim 23, wherein the instructions when executed cause the  
2 system to determine the size of the portion of the message supported by a  
3 communications path and to modify the indication based on the determination.

1 26. The article of claim 23, wherein the instructions when executed cause the  
2 system to modify the indication based on whether a predetermined communications  
3 protocol is employed in a communications path.

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1           27.    The article of claim 26, wherein the predetermined communications  
2 protocol comprises a Point-to-Point Protocol.

1           28.    The article of claim 26, wherein the predetermined communications  
2 protocol comprises a Point-to-Point over Ethernet protocol.

1           29.    The article of claim 23, wherein the instructions when executed cause the  
2 system to transmit a second message containing the modified indication.

1           30.    The article of claim 29, wherein the instructions when executed cause the  
2 system to receive another response message having a size dependent on the modified  
3 indication.

1           31.    A data signal embodied in a carrier wave and containing instructions for  
2 indicating a message size, the instructions when executed causing a system to:  
3                    receive a message containing a data portion and an indication of a length  
4 of the data portion; and  
5                    adjust a value of the indication to indicate a different length.

1           32.    A method of indicating a message size, comprising:  
2                    receiving a message containing a maximum segment size value;  
3                    determining a maximum data size supportable by a link between the  
4 system and another node;  
5                    comparing the determined maximum data size with the maximum segment  
6 size value; and  
7                    modifying the maximum segment size value based on the determination.

1           33.    The method of claim 32, wherein comparing the determined maximum  
2 data size comprises computing a maximum segment size value and comparing the  
3 computed maximum segment size value with the maximum segment size value in the  
4 message.

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1           34.     The method of claim 32, further comprising sending a message containing  
2     the modified maximum segment size value over the link.

1           35.     The method of claim 32, wherein receiving the message comprises  
2     receiving a message containing a Transmission Control Protocol header that contains the  
3     maximum segment size value.

1           36.     An article comprising at least one storage medium containing instructions  
2     for indicating a message size, the instructions when executed causing a system to:  
3                 receive a message containing a maximum segment size value;  
4                 determine a maximum data size supportable by a link between the system  
5     and another node;  
6                 compare the determined maximum data size with the maximum segment  
7     size value; and  
8                 modify the maximum segment size value based on the determination.

1           37.     A system for indicating a message size, comprising:  
2                 means for receiving a message containing a maximum segment size value;  
3                 means for determining a maximum data size supportable by a link  
4     between the system and another node;  
5                 means for comparing the determined maximum data size with the  
6     maximum segment size value; and  
7                 means for modifying the maximum segment size value based on the  
8     determination.

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